

5.4 Biological Resources

This section examines whether Project implementation will result in impacts upon biological resources within the Planning Area.

This analysis focuses on biological impacts associated with the adoption and implementation of the proposed General Plan and adoption and implementation of the updated Zoning Code and Subdivision Code, as these actions have the potential to facilitate development that will impact biological resources within the Planning Area. The Citywide Design Guidelines address only site planning, building design and community aesthetics and are thus not considered relevant to this analysis. The Magnolia Avenue Specific Plan will set forth a detailed framework of objectives, policies and implementation tools to guide development along the City's major arterial roadway that runs exclusively through a completely urbanized area. The Specific Plan establishes streetscape and roadway improvements within the Magnolia Avenue's existing right-of-way, as well as development standards for already developed properties in an urban setting. Therefore, the Magnolia Avenue Specific Plan is not considered relevant to this analysis.

Environmental Setting

Regulatory Framework

The following paragraphs summarize the regulatory context under which biological resources are managed at the Federal, State and local levels.

Federal Endangered Species Act (FESA; 16 U.S. Code Section 153 et seq.)

The United States Fish and Wildlife Service (USFWS), under the auspices of the Federal Endangered Species Act of 1973 (as amended), manages and protects species listed as endangered or threatened. The USFWS can issue a permit for incidental "take" of listed species as a result of otherwise lawful activities. Take, under the Federal definition, means to harass, harm (including habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. The permitting process is used to determine if a project would jeopardize the continued existence of listed species and what mitigation measures would be required to avoid or minimize impacts to listed species. Procedures for obtaining a permit for incidental take are identified under Section 7 of the Act for Federal properties or where Federal actions are involved, and are identified under Section 10 of the Act for non-Federal actions.

Candidate species do not have the full protection of the FESA; however, the USFWS advises applicants that candidate species could be elevated to listed species at any time.

Migratory Bird Treaty Act (16 USC Section 703-711)

The Migratory Bird Treaty Act (MBTA) of 1918, implemented by the USFWS, is an international treaty that makes it unlawful to take, possess, buy, sell, purchase, or barter, any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs or products, except as allowed by implementing regulations (50 CFR 21). The MBTA requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (1 February to 31 August, annually).

Bald and Golden Eagle Protection Act (16 USC Section 668)

The Bald and Golden Eagle Protection Act provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. If compatible with the preservation of bald and golden eagles, the Secretary of the Interior may permit the taking, possession and transportation of bald and golden eagles and nests for scientific or religious purposes, or for the protection of wildlife, agricultural or other interests. The Secretary of the Interior may authorize the take of golden eagle nests which interfere with resource development or recovery operations. Bald eagles may not be taken for any purpose unless the Secretary issues a permit prior to the taking.

Clean Water Act (33 USC 1252-1376)

Section 401 of the Clean Water Act (CWA) requires an applicant to obtain certification for any activity that may result in a discharge of a pollutant into Waters of the United States. As a result, proposed fill in waters and wetlands requires coordination with the appropriate State Regional Water Quality Control Board (RWQCB) that administers Section 401 and provides certification. The RWQCB also plays a role in review of water quality and wetland issues, including avoidance and minimization of impacts. Section 401 certification is required prior to the issuance of a Section 404 permit.

Under Section 404 of the CWA, the U.S. Army Corps of Engineers (ACOE) has jurisdiction over “Wetlands” and “Waters of the United States.” Permitting of activities that could discharge fill or dredge materials or otherwise adversely modify wetlands or other waters of the United States and associated habitat is required. Permits authorized by ACOE under the Act typically involve mitigation to offset unavoidable impacts on wetlands and other waters of the United States in a manner that achieves no net loss of wetland acres or values.

Executive Order 11990, Protection of Wetlands (May 24, 1977)

This Executive Order establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On projects with Federal actions or approvals, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm to those wetlands must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding in the final environmental document for the proposed project.

California Endangered Species Act (Fish and Game Code 2050 et seq.)

The California Endangered Species Act (CESA) establishes State policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. CESA definitions of endangered and threatened species parallel those defined in the FESA. Take authorizations from California Department of Fish and Game (CDFG) are required for any unavoidable impact to State-listed species resulting from proposed projects.

Prior to being considered for protected status, the CDFG designates a species as a species of special concern. Species of special concern are those species for which CDFG has information indicating that the species is declining.

Native Plant Protection Act (Fish and Game Code Sections 1900-1913)

California's Native Plant Protection Act (NPPA) requires all State agencies to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of the CDFG at least 10 days in advance of any change in land use which would adversely impact listed plants. This requirement allows CDFG to salvage listed plant species that would otherwise be destroyed.

Fish and Game Code Sections 1600-1603

The CDFG, through provisions of the Fish and Game Code Sections 1600-1603, is empowered to issue agreements (Streambed Alteration Agreements) for projects that would "divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" (Fish and Game Code Section 1602[a]). Streams and rivers are defined by the presence of a channel bed and banks, and intermittent flow. The limits of CDFG jurisdiction are also based on riparian habitat and may include wetland areas that do not meet ACOE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

**Natural Community Conservation Planning Act
(Fish and Game Code Sections 2800-2835)**

The purpose of natural community conservation planning is to sustain and restore those species and their habitat identified by the department that are necessary to maintain the continued viability of those biological communities impacted by human changes to the landscape. It is also the policy of the State to conserve, protect, restore, and enhance natural communities. The State may acquire a fee or less than fee interest in lands consistent with approved natural community conservation plans and may provide assistance with the implementation of those plans.

Western Riverside County Multi-Species Habitat Conservation Plan

In June of 2003, the Riverside County Board of Supervisors adopted a comprehensive Multiple Species Habitat Conservation Plan (MSHCP) to provide a regional conservation solution to species and habitat issues that have historically threatened to stall infrastructure and land use development. The MSHCP is a multi-jurisdictional effort that includes the unincorporated area of western Riverside County and fourteen cities, including the City of Riverside. The MSHCP covers 146 species and addresses biological diversity within 1.26 million acres, from west of the San Jacinto Mountains to the Orange County border. While protecting high-profile species like the Stephen's kangaroo rat and the Quino checkerspot butterfly, the MSHCP is designed to protect more than 30 federally threatened and endangered species, and to conserve 510,000 acres, of which 347,000 acres are already in public and quasi-public ownership.

The MSHCP serves as a Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the FESA, as well as an NCCP under the NCCP Act of 2001. Though the USFWS and CDFG have authority to regulate the take of threatened and endangered species, consistent with the terms and conditions of approval of the MSHCP, the USFWS and CDFG has granted "Take Authorization" for otherwise lawful actions in exchange for the assembly and management of coordinated MSHCP Conservation Areas for 146 "covered species" (including 14 narrow endemic plant species). Of the 146 "covered species," 118 species are considered "adequately conserved" within the MSHCP.

City of Riverside Urban Forest Tree Policy

The City of Riverside is known as a "City of Trees." Trees beautify the landscape and enhance the quality of life for its residents. The City's *Urban Forest Tree Policy Manual* provides guidelines for the preservation and protection of the City of Riverside's tree heritage.

Wildlife Habitat

The City of Riverside's unique landscape supports a rich diversity of biological resources, including a number of sensitive species. Isolation of a species, a result of development, can disrupt biodiversity and cause long-term consequences for survival of a species and those animals that rely upon it. Biological resources are mostly limited to major open spaces within and adjacent to the City limits, including Santa Ana River Regional Park, Box Springs Mountain Park, Box Springs Canyon, Alessandro Hills, a number of arroyos, Mockingbird Canyon, the La Sierra/Norco Hills and Lake Mathews Preserve.

Preserving and protecting wildlife habitat equates to the preservation and protection of wildlife species. The great diversity of vegetation types and habitat located in the hillsides and arroyos of the City of Riverside support a wide variety of animal populations. Natural habitat such as riparian areas provides food, cover, and shelter for birds, mammals, reptiles and insects. Wildlife corridors provide areas of undisturbed open space that allow regional wildlife migration between natural habitats, promoting proliferation of indigenous species.

Plant Communities

Plant communities are not always clearly defined with strictly delineated boundaries. They are dependent on or affected by factors such as geographical location, soil types, precipitation rates, angle and direction of slopes, elevations, microclimates and successional considerations. Each of these factors can exist in a broad spectrum of possibilities and in many different combinations. As conditions change from site to site, conditions may become less advantageous for some plants and more advantageous for others. The community character will change until a new community is formed. The area where one community intergrades into another usually results in a mixture of communities called an ecotone that display characteristics of two or more community types.

The term “plant communities” refers strictly to vegetation types or associations, whereas “habitat” refers to both biotic (i.e., vegetation, animals) and abiotic (i.e., soil, temperature) factors.

There are 11 major plant communities within the Planning Area: urban/developed, agriculture, non-native grassland, coastal scrub, chaparral, oak woodland, riparian woodland, riparian scrub, marsh, open water/reservoir and Arundo/riparian forest. These communities are depicted in **Figure 5-4**; below, each community is described in greater depth.

Urban/Developed

Urban or developed land is comprised of areas of intensive use with much of the land covered by structures. Included in this category are cities, transportation facilities, power and communications facilities, residences, shopping centers, industrial and commercial complexes and institutions that may, in some instances, be isolated from urban areas. Agricultural land, wetland, or water areas on the fringe of urban or built-up areas are not included in this category except where they are surrounded and dominated by urban development.

The City of Riverside is predominantly urban/developed with peripheral areas of open space characterized by agriculture (Arlington Heights Greenbelt) and native vegetation (e.g., La Sierra/Norco Hills, Sycamore Canyon Park, arroyos).

Agriculture

Agricultural land may be defined broadly as land used primarily for production of food and fiber and includes crop fields, orchards, vineyards and grazing lands. The number of buildings is smaller and the density of the road and highway network much lower in agricultural land than in urban or developed land. When wetlands are drained for agricultural purposes, they are included in the agriculture category. Agricultural lands that are no longer in use and where wetlands vegetation has reestablished are included in the wetlands category.

The Arlington Heights Greenbelt is still characterized by agricultural uses, primarily in the form of citrus orchards and nursery stock yards. Other citrus orchards are located on properties within the southern Sphere of Influence.

This page intentionally left blank.

(FIGURE 5-4 Vegetation Communities)

11x 17 color

This page intentionally left blank.

Non-native Grassland

Non-native grasslands are characterized by a dense to sparse cover of annual grasses with flowering culms (stems) 0.2-0.5 meters high. They are often associated with numerous species of showy-flowered, native wildflowers, especially in years of favorable rainfall. Flowering occurs with the onset of the late fall rains and growth, flowering, and seed-set occur from winter through spring. With a few exceptions, the plants are dead through the summer-fall dry season, persisting as seeds. Non-native grasslands occur on fine-textured, usually clay soils which are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. Adjacent communities may include Oak Woodland on moister, better drained soils. Non-native grasslands can be found in valleys and foothills throughout most of California, except for the north coastal and desert regions at elevations below 3,000 feet, but reaching 4,000 feet in the Tehachapi Mountains and interior San Diego County.

The majority of flatter terrain in undeveloped portions of the Planning Area is dominated by introduced annual grasses. Non-native grassland is present in large expanses of Sycamore Canyon, Alessandro Hills, Box Springs Mountain and Canyon, the La Sierra/Norco Hills, the La Sierra Lands and the gently rolling slopes of Santa Ana River Regional Park.

Coastal Scrub

Coastal scrub communities are characterized by low shrubs and an absence of trees. Types of shrubs include either pure stands, or mixtures of low, thick-leaved evergreens and coarse, deciduous species that drop their leaves in response to periodic drought conditions. Representative scrub communities include the northern coastal scrub, southern coastal sage scrub or soft-chaparral, and arid hard-chaparral. Low shrubby overstory and lush herbaceous undergrowth often characterize the northern coastal scrub community, which may grade into adjacent coastal prairie. Many northern scrub species retain their leaves throughout the year. Native coyote brush (*Baccharis pilularis*) is the most abundant plant in this community. California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), monkeyflower (*Mimulus* spp.) and tall cow parsnip (*Heracleum lanatum*) are also common.

Also called soft chaparral, coastal sage scrub occurs primarily below 914 m (3,000 ft) and is developed primarily on western slopes of mountains, on steep, south-facing, wind-exposed slopes, and in areas where the marine layer penetrates inland to foothills and canyons. Shrubs are more widely spaced than those typical of chaparral and do not have the characteristic rigidity or thick drought resistant leaves. Remaining dormant throughout the dry season, plants either drop their leaves or produce smaller leaves on secondary shoots during the summer, which reduces water loss. Root systems are generally shallow and some shrubs store water in succulent leaves and stems. Other plants produce aromatic oils from the surfaces of leaves, making them less appealing to grazing animals and reducing water loss, but at the cost of increased flammability during the fire season. Typical species in this community include California sagebrush (*Artemisia californica*), ashleaf buckwheat (*Eriogonum cinereum*), long-stemmed buckwheat (*E. elongatum*), California buckwheat (*E. fasciculatum*), white sage (*Salvia apiana*), black sage (*S. mellifera*), purple sage (*S. leucophylla*), bush monkeyflower (*Mimulus longiflorus*), California bush sunflower (*Encelia californica*), coyote brush (*Baccharis pilularis*), sawtooth and coast goldenbush (*Hazardia*

squarrosus and *Isocoma menziesii*), laurel sumac (*Malosma laurina*), wooly blue curls (*Trichostema lanatum*), canyon sunflower (*Venegasia carpesioides*), deerweed (*Lotus scoparius*), golden yarrow (*Eriophyllum confertiflorum*), coast prickly pear (*Opuntia littoralis*), lupines (*Lupinus* spp.) and Canadian wildrye (*Elymus canadensis*).

Within the Planning Area, coastal scrub is found on steep slopes in the southern hillsides, as well as at Sycamore Canyon, Alessandro Hills, Box Springs Mountain, Arlington Heights, Woodcrest, Rancho El Sobrante, and rocky outcroppings in the La Sierra Lands and the La Sierra/Norco Hills.

Chaparral

Chaparral is a native plant community that supports a high diversity of plant and animal life. Chaparral is widely distributed on dry slopes and ridges at low and mid-elevations. It typically consists of shrubs with tough, broad leaves, although species composition may vary considerably with many different subtypes. Chamise chaparral, which is the most common chaparral type in San Bernardino and Riverside Counties, is dominated by chamise (*Adenostoma fasciculatum*). Southern mixed chaparral occurs adjacent to Riversidean sage scrub and chamise chaparral, but generally occurs on sites with more moisture. Common chaparral shrubs include toyon (*Heteromeles arbutifolia*), chamise, several California lilac (*Ceanothus megacarpus*, *C. crassifolius*, *C. cuneatus* and *C. spinosus*), birch-leaved mountain mahogany (*Cercocarpus betuloides*), manzanita (*Arctostaphylos* spp.) and scrub oak (*Quercus berberidifolia*).

Chaparral communities are found southwest of Lake Mathews.

Oak Woodland

Oak woodland stands vary from open savannas with grassy understories to fairly dense woodlands with shrubby understories. This community typically integrates with both valley grassland and riparian woodland. Annual rainfall is generally between 38 and 64 cm (15 and 25 inches), and intermittent streams may be present. The dominant trees are valley oak (*Quercus lobata*), coast live oak (*Q. agrifolia*), Engelmann oak (*Q. engelmannii*), black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), California bay laurel (*Umbellularia californica*), toyon, and blue elderberry (*Sambucus mexicana*). Smaller trees and shrubs along with herbaceous plants and grasses that form the vegetative understory include coffeeberry (*Rhamnus californica*), sugar bush (*Rhus ovata*), lemonadeberry (*Rhus integrifolia*), squawbush (*Rhus trilobata*), poison oak (*Toxicodendron diversilobum*), coastal wood fern (*Dryopteris arguta*) and bracken fern (*Pteridium aquilinum*).

Within the Planning Area, oak woodlands are known to occur along El Sobrante Road between La Sierra Avenue and McAllister Street.

Riparian Woodland

Riparian woodlands are dependent on the presence of or proximity to non-seasonal water sources. The water may be surface water or shallow ground water. Riparian woodlands may measure a few meters in width to much broader depending on water flow. Where

non-seasonal streams flow out of the mountains and onto flatter grasslands, the riparian woodland community may be a relatively broad one, but in the higher elevations where water flows down a narrow passageway often confined by steep hillsides, this community may be very narrow. Riparian woodland may also occupy areas surrounding man-made lakes and reservoirs. Typical species of this community include willows (*Salix* spp.), western sycamore (*Platanus racemosa*), California black walnut (*Juglans californica*), fremont and black cottonwood (*Populus fremontii* and *P. trichocarpa*), white alder (*Alnus rhombifolia*), coast live oak (*Quercus agrifolia*), big-leaf maple (*Acer macrophyllum*), California bay laurel (*Umbellularia californica*), mulefat (*Baccharis salicifolia*), and smaller plants such as stream orchid (*Epipactis gigantea*), poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), horsetails (*Equisetum* spp.), humboldt lily (*Lilium humboldtii*) and scarlet and creek monkeyflower (*Mimulus cardinalis* and *M. guttatus*).

The presence of perennial water in the Santa Ana River, Tequesquite Arroyo, Sycamore Canyon, and Box Springs Canyon has supported the development of riparian woodland plant communities at scattered locations.

Riparian Scrub

Riparian scrub is characterized as a scrubby streamside thicket, dominated by any of several willows. Vegetation may vary from open to impenetrable. This community typically occurs on relatively fine-grained sand and gravel bars that are close to river channels and/or ground water. Coarser substrate soils or areas where there is relatively great depth to the water table favors dominance by mulefat (*Baccharis salicifolia*). This early successional community may precede any of several riparian woodland or forest types absent severe flooding disturbance.

Riparian scrub is located throughout the Planning Area along streams and drainages. The largest riparian scrub communities are located northeast of Mockingbird Canyon Road and south of Markham Street. Other larger communities occur along the shores of Lake Mathews, and near Nandina Avenue between Wood Road and Cole Avenue.

Marsh

Marsh communities are dominated by perennial, emergent flowering plants (monocots) generally up to four to five meters tall. Vegetation often forms completely closed canopies. Bull rush (*Scirpus* spp.) and Cattail (*Typha* spp.) species dominate. Marsh communities are found on sites permanently flooded by fresh water and lacking significant current. Conditions of prolonged saturation permit accumulation of deep, peaty soils in this community.

Marsh communities are known to occur along the shores of Lake Mathews.

Open Water/Reservoir

Open water/reservoir habitats are called lacustrine habitats and are characterized by inland depressions or dammed riverine channels containing standing water, including both the

near-shore (limnetic) and deepwater habitat (littoral). Usually, to meet this criterion, each area must exceed 20 acres (8 hectares) and be deeper than 6.6 feet (2 meters).

Lake Mathews, Lake Evans and Mockingbird Canyon Reservoir are classified as open water/reservoir habitats within the Planning Area.

Arundo/Riparian Forest

Arundo/Riparian forests are characterized by dense impenetrable stands of riparian vegetation dominated or exclusively composed of giant reed (*Arundo donax*). The California Invasive Plant Council (Cal-ICP) includes giant reed on its "Exotic Pest Plants of Greatest Ecological Concern in California" list. Giant reed is documented as a widespread, aggressive, invader that displaces native plant species and disrupts natural habitats. Giant reed is suited to tropical, subtropical and warm temperate climates of the world. Although it tolerates some salt and can grow on sand dunes, giant reed grows best along river banks and in other wet places. Giant reed is best developed in poor sandy soil but is tolerant of all types of soils, from heavy clays to loose sands and gravelly soils.

Arundo/Riparian forests are known to occur along the Santa Ana River near Van Buren Boulevard at the City's northern boundary. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Wildlife Species

Some of the larger predatory mammal species in the Planning Area include coyote, bobcat, gray fox and mountain lions. Smaller mammals include Stephens' kangaroo rat, burrowing rodents, woodrats and raccoons. Golden eagle, marsh hawk, prairie falcon, burrowing owl, Cooper's hawk and American kestrel are examples of raptors that frequent the skies above foraging areas. Smaller birds include crow, raven, house finch, song sparrow, California quail, house wren, Bewick's wren, California gnatcatcher and Least bell's vireo. Reptiles and amphibians include San Diego horned lizard, western pond turtle, Arroyo southwestern toad, California red-legged frog, Orange-throated whiptail and Two-striped garter snake. Riverside Fairy Shrimp are also known to occur within vernal pools in the Planning Area.

Wildlife Corridors

To protect California's biodiversity, local, State, and Federal agencies that manage wildlife and oversee land use planning continually work with landowners and developers to maintain habitat linkage for animal access. These linkages, also called corridors, provide animals and other living things a lifeline between "islands" of habitat and serve as escape routes from danger and avenues to food supplies and mating prospects. Corridors can be narrow as a culvert or wider than an eight-lane freeway. They may be short or extend for miles, perhaps crossing over or under roads.

Riparian corridors in the Planning Area serve as important migratory corridors between major open space areas. The Santa Ana River is an example of a protected migratory corridor preferred by native wildlife, permanently set aside as open space by the County of Riverside Parks Department within its jurisdiction.

The City's canyons and southern hillsides also provide valuable migratory corridors for wildlife. These migratory corridors are connected where two drainages pass near one another or at the confluence of different drainage swales. For example, at Central Avenue, where Box Springs Mountain and Sycamore Canyon pass near one another, is considered highly valuable for wildlife migration. The City has been attempting to secure this and other areas for wildlife migration. A final example of a wildlife corridor is the La Sierra/Norco Hills.

Sensitive Biological Resources

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by Federal, State, and local government conservation programs. The source used to determine the sensitive status of vegetation communities was the California Natural Diversity Database (CNDDDB) (CDFG 2003). Sensitive vegetation communities within the Planning Area include vernal pools, southern cottonwood-willow riparian forest, southern sycamore-alder riparian forest, southern willow scrub, Southern California arroyo chub/Santa Ana sucker stream, southern coast live oak riparian forest, southern riparian forest, Riversidean alluvial fan sage scrub, Riversidean sage scrub, peninsular juniper woodland and scrub and cismontane alkali marsh, dense Englemann oak woodland, coast live oak woodland and mulefat scrub.

Vernal Pools

Vernal pools are seasonal wetlands that form in localized depressions with subsurface hardpans, allowing ponded rainwater to remain above the surface into the dry season. These seasonal wetlands create a moist environment to which a specialized group of plant species are adapted. Species composition varies among pools but may consist of annual hairgrass (*deschampsia danthonioides*), downingias (*Downingia concolor*), low navaretia (*Navaretia prostrate*), Orcutt brodiaea (*Brodiaea orcuttii*), quillworts (*Isoetes gracilis*), round woollyheads (*Psilocarphus brevissimus*) and San Diego mesa mint (*Pogogyne abramsii*). Herbs are typically less than 0.25 meters tall with an intermittent or open canopy. Vernal pools typically occur below 1,400 feet (427 meters) in elevation.

Vernal pools exist in the Lake Mathews Ecological Preserve and adjacent to the Santa Ana River between Main Street and Bandini Avenue. Undeveloped lands located on relatively flat terrain represent areas in which vernal pools are likely to be found.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forests are tall, open, broadleaved winter-deciduous riparian forests dominated by Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*) and several tree willows. Understories consist of shrubby willows. The dominant species require moist, bare mineral soil. Sub-irrigated and frequently overflowed lands along rivers and streams provide the necessary conditions for germination and establishment. Other typical plant species include California mugwort (*Artemisia*

douglasiana), mulefat (*Baccharis salicifolia*), wild cucumber (*Marah macrocarpus*), western sycamore (*Platanus racemosa*), Goodding's black willow (*Salix gooddingii*), sandbar willow (*S. hindsiana*), pacific willow (*S. lasiandra*), arroyo willow (*S. lasiolepis*) and stinging nettle (*Urtica holosericea*).

Southern cottonwood-willow riparian forests exist along the Santa Ana River in northwest Riverside and along the middle-upper portions of an unnamed tributary to Walker Canyon, just west of Stovepipe and Bull Canyon Roads. This community may also be found along lakes and drainages throughout the Planning Area.

Southern Sycamore-Alder Riparian Woodland

Southern sycamore-alder riparian woodland is a tall, open, broadleaved, winter-deciduous streamside woodland dominated by western sycamore (*Platanus racemosa*) and white alder (*Alnus rhombifolia*). These stands seldom form closed canopy forests, and may appear as trees scattered in a shrubby thicket of hard drought-resistant evergreens and deciduous species. Soils consist of very rocky streambeds subject to seasonally high-intensity flooding. White alder increases in abundance on more perennial streams, while western sycamore favors more intermittent hydrographs. Other common forms of vegetation include big-leaf maple (*Acer macrophyllum*), California mugwort (*Artemisia douglasiana*), coast live oak (*Quercus agrifolia*), elk clover (*Aralia californica*), horsetail (*Equisetum hymale*), smilo grass (*Piptatherum miiaceum*), California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), Mexican elderberry (*Sambucus mexicana*), California bay laurel (*Umbellularia californica*) and stinging nettle (*Urtica dioica*). Southern sycamore-alder riparian woodlands occupy areas in the Transverse and Peninsular ranges from Point Conception south into northern Baja California.

Although not mapped in Figure 5-4, the CDNNB database indicates that southern sycamore-alder riparian forests occur along an unnamed tributary to the Belvedere Heights area on the west side of Box Springs Mountains and along an unnamed tributary to the creek running along Santa Rosa Mine Road, northwest of Steele Peak/Steele Valley. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Southern Willow Scrub

Southern willow scrub is distinguished by dense, broadleaved, winter-deciduous riparian thickets dominated by several willow species including black willow (*Salix gooddingii*), sandbar willow (*S. hindsiana*), red willow (*S. laevigata*), pacific willow (*S. lasiandra*) and arroyo willow (*S. lasiolepis*), with scattered Fremont cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development. Typical soils include loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. This community requires repeated flooding to prevent succession to southern cottonwood-sycamore riparian forest. Southern willow scrub was formerly extensive along the major rivers of coastal Southern California but is now much reduced by urban expansion, flood control, and channel improvements.

Southern willow scrub exists along two tributaries to small reservoir, approximately 1.5 air miles southwest of Mockingbird Reservoir. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Southern California Arroyo Chub/Santa Ana Sucker Stream

Southern California arroyo chub/Santa Ana sucker streams exist along the Santa Ana River and its tributaries including Chino Creek, Aliso Creek and Sunnyslope Creek in San Bernardino, Riverside and Orange counties. These streams range from Mount Rubidoux downstream to northeastern Anaheim. The best habitat is found below the riverside narrows where ground water is forced to the surface and flows become more perennial and stable. Santa Ana suckers and arroyo chub face danger from predation by several non-native fish species, controlled water flow controlled through Prado Dam, and urbanization and pollution impacts.

Southern Coast Live Oak Riparian Forest

Southern coast live oak riparian forests are characterized by both open and locally dense evergreen riparian woodlands dominated by coast live oak. This community appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Southern coast live oak riparian forests are found in bottomlands and outer floodplains along larger streams, on fine-grained, rich alluvium soils in canyons and valleys of coastal southern California, mostly south of Pt. Conception. Characteristic plant species include big-leaf maple (*Acer macrophyllum*), California mugwort (*Artemisia douglasiana*), California toothwort (*Cardamine californica*), eucrypta (*Eucrypta chrysanthemifolia*), toyon (*Heteromeles arbutifolia*), bush penstemon (*Keckiella cordifolia*), California honeysuckle (*Lonicera hispidula*), wild cucumber (*Marah macrocarpus*), fiesta flower (*Pholistoma auritum*), skunkbrush (*Rhus trilobata*), California wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), Mexican elderberry (*Sambucus mexicana*), creeping snowberry (*Symphoricarpos mollis*), poison oak (*Toxicodendron diversilobum*) and bay laurel (*Umbellularia californica*).

Southern coast live oak riparian forests occur along Gavilan Road in vicinity of Harford Spring, east of Lake Mathews. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Southern Riparian Forest

Southern riparian forest communities are characterized by wetland species dominated by willows (*Salix* spp.), cottonwoods (*Populus* spp.), big leaf maple (*Acer macrophyllum*) and/or western sycamore (*Platanus racemosa*). These species may be sole dominants or mixed dominance. The tree canopy is typically continuous with sparse shrub and herb layers forming the understory. These communities are periodically flooded or saturated with water. Southern riparian forest communities occur at elevations from sea-level to 2,400 meters.

Southern riparian forests occur along an unnamed tributary to Cajalco Canyon, east of Cajalco Tin Mine and south of Eagle Valley near Lake Mathews. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Riversidean Alluvial Fan Sage Scrub

Riversidean alluvial fan sage scrub grows on sandy, rocky alluvial soils deposited by streams that experience periodic flooding. The soils in these areas are well drained to excessively drained and have low water holding capacity and low fertility. Vegetation consists of drought-deciduous subshrubs and large evergreen woody shrubs that are adapted to these soil characteristics as well as to survival of intense, periodic flooding and erosion. Pioneer, intermediate and mature are three types or stages of the alluvial fan sage scrub plant community. The pioneer stage has sparse vegetation and low plant diversity. The intermediate stage is characterized by dense vegetation dominated by subshrubs. The mature stage has dense full grown subshrubs, along with evergreen woody shrubs.

Scale-broom (*Lepidospartum squamatum*) is a shrub species that is found most often on alluvial soils associated with drainages. Other common shrub species of this vegetation community are often characteristic species of either Riversidean sage scrub or chaparral communities. These common subshrub species include coastal sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), brittlebush (*Encelia farinosa*), hairy yerba santa (*Eriodictyon trichocalyx*), sugarbush (*Rhus ovata*), birch-leaved mountain mahogany (*Cercocarpus betuloides*) and California broom (*Lotus scoparius*).

Riversidean alluvial fan sage scrub is known to occur along the Santa Ana River between Mission Boulevard and Mission Street. Other communities are located in the northernmost parts of the Planning Area and southeast of Lake Mathews between Galivan Road and Lake Mathews Drive. Areas identified in Figure 5-4 as “Disturbed Alluvial” indicates some type of human disturbance such as grading and/or a large influx of non-native plant species (ie: weeds) where soils and other conditions would otherwise permit growth of riversidean alluvial fan sage scrub.

Riversidean Sage Scrub

Typical stands of Riversidean Sage Scrub are fairly open and dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*) and red brome (*Bromus rubens*), each attaining at least 20% cover. Riversidean Alluvial Fan Sage Scrub typically occurs on drier sites such as steep slopes, severely drained soils or clay soils that release stored soil moisture slowly.

Riversidian sage scrub is scattered throughout southeastern half of the Planning Area. Large concentrations of Riversidian alluvial fan sage scrub are located along the eastern and western edges of the City and to the south and west of Lake Mathews.

Peninsular Juniper Woodland and Scrub

Peninsular juniper woodland and scrub is dominated by California juniper (*Juniperus californica*). This community exists on dry alluvial fans and desert slopes. Litter layers are restricted to directly beneath the tree driplines and fuel loads usually are insufficient to carry a fire. This woodland species does not tolerate fire. Burning usually leads to the formation of semi-desert chaparral communities.

Within the Planning Area, juniper woodland is located to the south and east of Lake Mathews and intergrades with non-native grassland and Riversidean Sage Scrub communities.

Cismontane Alkali Marsh

Cismontane alkali marsh is dominated by perennial, emergent, herbaceous monocots up to two meters tall. Vegetation is similar to that found in salt marshes, freshwater marshes and coastal brackish marshes. Vegetation cover is often complete and dense and most growth and flowering occurs in summer. This community typically occurs where standing water or saturated soil is present during most or all of year. High evaporation and low input of fresh water render these marshes somewhat salty, especially during the summer. Cismontane alkali marsh is similar to coastal brackish marsh in its quantitative range of saltiness, but is more alkaline and usually contains salts other than sodium chloride. Marshes that become mostly dry during the summer are called vernal marshes; those with a more constant input of fresh water are called coastal and valley freshwater marshes. Chenopod scrubs occur in areas with moist, highly alkaline soil that usually lack water at the surface. All of the above habitats may intergrade with alkali marshes.

Cismontane alkali marsh is known to occur east of Lake Mathews near Cajalco Road and between Cajalco Road and Rider Street.

Dense Englemann Oak Woodland

Dense Englemann oak woodlands are a climax woodland dominated by Engleman oak (*Quercus engelmannii*) with coast live oak (*Quercus agrifolia*) as an additional significant constituent. The understory is composed of typical grassland species. Canopy cover is dense due to coast live oak being superimposed on the Engleman oak. This vegetation community appears on moderately moist sites, especially in steep canyons.

Dense Englemann oak woodlands are known to occur southeast of Lake Mathews between Galivan Road and Lake Mathews Drive.

Coast Live Oak Woodland

Coast live oak woodlands vary from closed-canopy stands of coast live oak (*Quercus agrifolia*) to mixtures with conifers and broadleaf trees to open savannas. The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), laurel sumac (*Rhus laurina*) or Mexican elderberry (*Sambucus mexicana*). The herb component is continuous and dominated by rip-gut brome (*Bromus diandrus*) and several

other introduced species. This community typically occurs on north-facing slopes and shaded ravines.

Coast live oak woodlands are scattered throughout the Planning area. Several coast live oak communities are located southeast of Victoria Avenue between La Sierra Avenue and Washington Street.

Mulefat Scrub

Mulefat scrub is characterized by tall, herbaceous riparian scrub strongly dominated by Mulefat (*Baccharis salicifolia*). This early successional community is maintained by frequent flooding. Absent this, most stands would succeed to cottonwood or sycamore dominated riparian forests or woodlands. Mulefat scrub occurs in intermittent stream channels with fairly coarse substrate and moderate depth to the water table. This community frequently occurs as a patchy understory in light gaps in Sycamore Alluvial Woodland especially under heavy grazing. Mulefat scrub is widely scattered along intermittent streams and near larger rivers from about Tehama County south through the Coast Ranges and Sierra Nevada to San Diego and northwestern Baja California Norte, usually below about 2,000 feet.

Mulefat scrub is known to occur southwest of Lake Mathews near Cajalco Road and south of Indiana Avenue between Buchanan Street and McKinley Street. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Sensitive Plant Species

Sensitive plant species include those that have been afforded special status and/or recognition by Federal and State resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution resulting in most cases from habitat loss. **Table 5.4-1** summarizes sensitive plant species known to occur in the Planning Area, their status designation and habitat types in which they are likely to occur.

All of these species may not occur in the study area. However, plant growth is dependent on or affected by factors such as geographical location, soil types, precipitation rates, angle and direction of slopes, elevations, microclimates and successional considerations. Therefore it is not uncommon to find a particular plant or grouping of plants growing outside what would be considered their customary habitats if some of the above factors are advantageous to that growth.

Sensitive Wildlife Species

Among the diverse wildlife species within the City of Riverside are sensitive species, some of which have protected status under the federal Endangered Species Act and various California statutes. "Sensitive" means any wildlife species native to California that is vulnerable or declining and is likely to become endangered or threatened in a significant portion of its range within the State without cooperative management or removal of threats.

**Table 5.4-1
Special-Status Plant Species Potentially Occurring in the Riverside Vicinity**

Common Name	Scientific Name	Status Designation	Distribution Notes
Chaparral sand-verbena	<i>Abronia villosa</i> <i>var. aurita</i>	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub, sandy areas. 80-1,600 m elevation.
Munz's onion	<i>Allium munzii</i>	Federal: END State: THR CNPS: 1B	Chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland. Only in Riverside Co. Heavy clay soils; grows in grasslands and openings within shrublands or woodlands. 300-1,035m elevation.
San Diego ambrosia	<i>Ambrosia pumila</i>	Federal: END State: None CNPS: 1B	Chaparral, coastal scrub, valley and foothill grassland, vernal pools. In the U.S., known only from San Diego and Riverside Co. Sandy loam or clay soil. In valleys; persists where disturbance has been superficial. 20-415m elevation.
Marsh sandwort	<i>Arenaria paludicola</i>	Federal: END State: END CNPS: 1B	Marshes and swamps. Growing up through dense mats of typha, juncus, scirpus, etc. in freshwater marsh.
Smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	Federal: None State: None CNPS: 1B	Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 0-480m elevation.
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	Federal: None State: None CNPS: 1B	Coastal scrub, chaparral. Dry slopes and flats; sometimes at interface of 2 vegetation such as chaparral and oak woodland; dry, sandy soils. 40-1,705m elevation.
Long-spined spineflower	<i>Chorizanthe polygonoides</i> <i>var. longispina</i>	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub, meadows, valley and foothill grassland. Gabbroic clay. 30-1,450m elevation.
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	Federal: END State: END CNPS: 1B	Chaparral, coastal scrub (alluvial fan sage scrub), flood deposited terraces and washes.
Many-stemmed dudleya	<i>Dudleya multicaulis</i>	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 0-790m elevation.
Round-leaved filaree	<i>Erodium macrophyllum</i>	Federal: None State: None CNPS: 2	Cismontane woodland, valley and foothill grassland. Clay soils. 15-1,200m elevation.
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Federal: None State: None CNPS: 1B	Coastal salt marshes, playas, valley and foothill grassland, vernal pools. Alkaline soils in playas, sinks, and grasslands. 1-1,400m elevation.
Robinson's pepper-grass	<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub. Dry soils, shrubland. 1-945m elevation.
Parish's desert-thorn	<i>Lycium parishii</i>	Federal: None State: None CNPS: 2	Coastal scrub, Sonoran desert scrub, 300-1,000m elevation.
Rayless ragwort	<i>Senecio</i>	Federal: None	Cismontane woodland, coastal scrub, drying

**Table 5.4-1
Special-Status Plant Species Potentially Occurring in the Riverside Vicinity**

Common Name	Scientific Name	Status Designation	Distribution Notes
	<i>aphanactis</i>	State: None CNPS: 2	alkaline flats. 20-575m elevation.

Federal designations: (Federal Endangered Species Act, USFWS):

END: Federally listed, endangered
 THR: Federally listed, threatened
 SOC: Federal Species of Concern
 Candidate: Federal Candidate

State designations: (California Endangered Species Act, CDFG)

END: State-listed, endangered
 THR: State-listed, threatened
 SOC: State Species of Special Concern

California Native Plant Society (CNPS) Designations:

List 1A: Plants presumed extinct in California.
 List 1B: Plants rare and endangered in California and throughout their range.
 List 2: Plants rare and endangered in California, but more common elsewhere.
 List 3: More information is needed.
 List 4: Limited distribution.

Source:

California Natural Diversity Database (CNDDB 2003), Riverside East, Riverside West and Lake Mathews USGS quads.

Table 5.4-2 summarizes sensitive wildlife species known to occur in the Planning Area, their status designation and habitat types in which they are likely to occur.

**Table 5.4-2
Special-Status Wildlife Species Potentially Occurring in the Riverside Vicinity**

Common Name	Scientific Name	Status Designation	Preferred Habitat
Birds			
Tricolor Blackbird	<i>Agelaius tricolor</i>	Federal: FSOC State: CSC	Freshwater marshes. Suitable breeding habitat includes cattails and bulrushes, as well as non-native thistles and mustards.
Southern California Rufous-Crowned Sparrow	<i>Aimophila ruficeps canescens</i>	Federal: None State: CSC	Rocky slopes, especially where a relatively open shrub cover dominated by California sagebrush is interspersed with grassy areas.
Bell's Sage Sparrow	<i>Amphispiza belli belli</i>	Federal: FSOC State: CSC	Relatively open chaparral, especially where dominated by chamise, but also occurs in sage scrub, especially in the more arid associations of this plant community.
Burrowing Owl	<i>Athene cunicularia</i>	Federal: FSOC State: CSC	Requires fairly large expanses of relatively open level terrain, including grasslands, agricultural fields, dairies and occasionally may use undisturbed edges of golf courses or airports.
Western Yellow-Billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	Federal: FC State: SE	Restricted to extensive deciduous riparian thickets or forest with dense, low-level or understory foliage which occur along slow moving watercourses, backwaters or seeps. Willows are almost always a dominant component nesting habitat.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Federal: FT State: FE	Open areas, forest edges and mountains near large lakes and rivers. Requires tall trees for nesting.
Yellow-Breasted Chat	<i>Icteria virens</i>	Federal: None State: CSC	Edges of woods, fencerows, dense thickets and brambles in low wet places near streams, pond edges or swamps and in old overgrown clearings and fields. Nests in small trees such as wild rose, hawthorn and snowberry thickets, elderberry and saskatoon.
Loggerhead shrike	<i>Lanius ludovicianus</i>	Federal: FSOC State: CSC	Open areas (e.g., grassland, rangeland, fallow agricultural fields), especially where there are scattered large shrubs or trees.
Coastal California Gnatcatcher	<i>Polioptila californica californica</i>	Federal: FT State: CSC	Obligate resident of several distinct sub-associations of the coastal sage scrub plant community.
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	Federal: FE State: SE	Mature riparian habitat with a dense understory of young willows, mule fat, blue elderberry, California rose, desert wild grape, and a variety of other shrubby species.
Fish			
Santa Ana Sucker	<i>Catostomus santaanae</i>	Federal: FT State: CSC	Small- to medium-sized permanent streams in water of varying depth. Flow is also variable.

**Table 5.4-2
Special-Status Wildlife Species Potentially Occurring in the Riverside Vicinity**

Common Name	Scientific Name	Status Designation	Preferred Habitat
			Usually found in clear water, they are able to tolerate seasonal turbidity. Prefers substrates that are generally coarse and consist of gravel, rubble, and boulder, but are occasionally found on sandy or muddy substrates.
Arroyo Chub	<i>Gila orcutti</i>	Federal: None State: CSC	Lowland habitats, and prefers freshwater streams and rivers with steady currents and emergent vegetation. Prefers slower-moving pools and ponded areas of streams with mud or sand substrates.
Santa Ana Speckled Dace	<i>Rhinichthys osculus ssp. 3</i>	Federal: None State: CSC	Requires permanent flowing streams with summer water temperatures of 17-20 C (60-68 F). Typically, streams are maintained by outflows of cool springs. Inhabits shallow cobble and gravel riffles.
Mammals			
Northwestern San Diego Pocket Mouse	<i>Chaetodipus fallax fallax</i>	Federal: None State: CSC	Coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper and annual grassland in sandy herbaceous areas, usually in association with rocks or coarse gravel.
Stephens' Kangaroo Rat	<i>Dipodomys stephensi</i>	Federal: FE State: ST	Inhabits annual grassland with sparse perennial vegetation in the San Jacinto Valley and adjacent areas of western Riverside and northwestern San Diego County.
San Diego Black-Tailed Jackrabbit	<i>Lepus californicus bennettii</i>	Federal: None State: CSC	Arid regions supporting short-grass habitats such as annual grassland, Riversidean sage scrub, alluvial fan sage scrub. Great Basin sagebrush, chaparral, disturbed habitat and agriculture.
Los Angeles Pocket Mouse	<i>Perognathus longimenbris brevinasus</i>	Federal: None State: CSC	Restricted to lower elevation grasslands and coastal sage scrub associations in the Los Angeles Basin.
Reptiles			
Orange Throated Whiptail	<i>Aspidozelis hyperythrus</i>	Federal: None State: CSC	Inhabits low-elevation coastal scrub, chaparral and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks.
Coastal Western Whiptail	<i>Aspidozelis tigris stejnegeri</i>	Federal: None State: CSC	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy or rocky.
Rosy Boa	<i>Charina trivirgata</i>	Federal: FSOC State: CSC	Desert and chaparral. Prefers moderate to dense vegetation and rocky cover. Mix of brushy cover and rocky soil such as coastal canyons and hillsides, desert canyons, washes and mountains.

**Table 5.4-2
Special-Status Wildlife Species Potentially Occurring in the Riverside Vicinity**

Common Name	Scientific Name	Status Designation	Preferred Habitat
Northern Red-Diamond Rattlesnake	<i>Crotalus rubber rubber</i>	Federal: None State: CSC	Chaparral, woodland, grassland, and desert areas. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.
Coast (San Diego) Horned Lizard	<i>Phrynosoma coronatum (blainvillei)</i>	Federal: None State: CSC	Open or sparse scrub and chaparral communities. This species prefers loose, friable soil for burrowing.
Western Spadefoot Toad	<i>Spea hammondi</i>	Federal: FSOC State: CSC	Grassland, coastal sage scrub and other habitats with open sandy gravel soils. Breeds in vernal pools and temporary ponds/pools associated with river bottoms and floodplains. Primarily a species of the lowlands, frequenting washes, floodplains of rivers, alluvial fans and alkali flats.
Invertebrates			
Riverside Fairy Shrimp	<i>Streptocephalus woottoni</i>	Federal: FE State: None	Areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.

Status Codes**Federal**

- FE** = Federal listed; Endangered
FT = Federal listed; Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FSOC = Federal Species of Concern
FC = Federal Candidate Species

State

- ST** = State-listed; Threatened
SE = State-listed; Endangered

- CSC** = California Species of Special Concern

Source:

California Natural Diversity Database (CNDDB 2003), Riverside East, Riverside West and Lake Mathews USGS quads.

Thresholds for Determining Level of Impact

For the purposes of this EIR, a significant impact will occur if Project implementation will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan, such as the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP).

Environmental Impacts

Development pursuant to Project policies and regulatory standards will result in the addition of up to 25,000 dwelling units within the City limits, 38,100 dwelling units total in the Planning Area and 39.6 million square feet of non-residential construction in the Planning Area over the 20-year horizon of the General Plan.

Within the City limits, the General Plan (as implemented by the updated Zoning and Subdivision Codes) will allow for the introduction of development in areas that have been largely undisturbed. Such development has the potential to have a significant impact upon sensitive vegetation communities and indirect impacts on sensitive animal species. Impacts could also include disruption of wildlife corridors, grading and development of habitat, encroachment into sensitive habitat areas and discharge of soils/pollutants into riparian areas.

However, a key objective of the overall General Plan Project program is to preserve the City's natural and historic assets by focusing new development within already urbanized areas along major transportation corridors. The General Plan enacts policies that actively discourage intensive "greenfield" development at the urban periphery as a means of reducing urban sprawl. The General Plan Open Space and Conservation Element includes the following objectives and policies designed to limit potential impacts on biological resources over the long term:

Objective OS-1:	Preserve and expand open space areas and linkages throughout the City and sphere of influence to protect the natural and visual character of the community, and provide for appropriate active and passive recreational uses.
Policy OS-1.1	Protect and preserve open space and natural habitat wherever possible.
Policy OS-1.3	Work with Riverside County and adjacent cities, landowners and conservation organizations to preserve, protect and enhance open space and natural resources.
Policy OS-1.4	Support efforts of state and federal agencies and private conservation organization to acquire properties for open space and conservation uses. Support efforts of nonprofit preservation groups, such as the Riverside Land Conservancy, to acquire properties for open space and conservation purposes.
Policy OS-1.5	Require the provision of open space linkages between development projects, consistent with the provisions of the Trails Master Plan, Open Space Plan and other environmental considerations including the MSHCP.
Policy OS-1.10	Utilize a combination of regulatory and acquisition approaches in achieving open space preservation.
Objective OS-2:	Minimize the extent of urban development in the hillsides, and mitigate any significant adverse consequences associated with urbanization.
Policy OS-2.2	Limit the extent and intensity of uses and development in areas of unstable terrain, steep terrain, scenic vistas, arroyos and other critical environmental areas.
Objective OS-5:	Protect biotic communities and critical habitats for endangered species throughout the General Plan Area.
Policy OS-5.1:	Preserve significant habitat and environmentally sensitive areas, including hillsides, rock outcroppings, creeks, streams, viewsheds and arroyos through application of the RC zone standards and the Hillside/Arroyo standards of the City's Grading Code.
Policy OS-5.2:	Continue to participate in the MSHCP Program.
Policy OS-5.3:	Continue to participate in the Stephen's Kangaroo Rat (SKR) Habitat Conservation Plan including collection of mitigation fees and operation of Sycamore Canyon Wilderness Park as an SKR reserve.
Policy OS-5.4	Protect native plant communities in the General Plan Area, including sage scrub, riparian areas and vernal pools.

Objective OS-6: Preserve and maintain wildlife movement corridors.

- Policy OS-6.1: Protect and enhance known wildlife migratory corridors, and create new corridors.
- Policy OS-6.2: Support regional and local efforts to acquire, develop and maintain open space linkages.
- Policy OS-6.3: Preserve the integrity of the arroyos of Riverside and riparian habitat areas through the preservation of native plants.
- Policy OS-6.4: Continue with efforts to establish a wildlife movement corridor between Sycamore Canyon Wilderness Park and the Box Springs Mountain Regional Park as shown on the MSHCP. New developments in this area shall be conditioned to provide for the corridor and Caltrans shall be encouraged to provide an underpass to the 60/215 Freeway.

In concert with these objectives and policies, land use policy establishes protections within the Greenbelt area, hillsides and the sphere of influence by limiting development densities and through the Open Space, habitat and hillside land use designations applied to conservation areas. (See Figure 3-3 in the Project Description for a map of all General Plan land use designations.)

To implement General Plan objectives and policies, the Zoning Code includes zoning districts that apply to large, publicly owned open space areas, such as Sycamore Canyon Park, to ensure preservation of these resources. The City's participation in the Western Riverside County MSHCP will also contribute to the protection of identified critical resource areas within the Planning Area.

At a programmatic level, the above objectives and policies will reduce potentially significant impacts to biological resources below a level of significance. The impacts of individual development projects upon biological resources will be assessed on a project-by-project basis in accordance with CEQA provisions. If project-level impacts are identified, specific mitigation measures will be required per CEQA.

Mitigation Measures

No mitigation is required, as impact is less than significant at a programmatic level.

Level of Impact after Mitigation

With adherence to and implementation of the above General Plan policies, the Project's potential biological resources impacts will be reduced below a level of significance at the programmatic level.

The significance of biological resources impacts resulting from specific future development projects will be evaluated on a project-by-project basis. If project-level impacts are identified, specific mitigation measures will be required per CEQA.

References

California Natural Diversity Database (CNDDDB 2003), Riverside East, Riverside West and Lake Mathews USGS quads.

Western Riverside County Multiple Species Habitat Conservation Plan, Final MSHCP, June 2003.